Project Fact Sheet

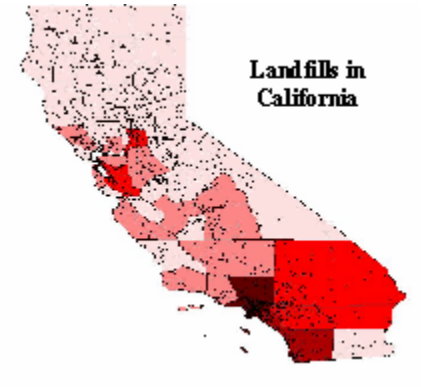
Commonwealth Project 2.1 - Enhanced Landfill Gas Using Bioreactors

GOALS

- Develop a conceptual design for two types of landfill bioreactors.
- Develop two types of landfill bioreactors.
- Develop environmental documentation to satisfy regulators.
- Quantify greenhouse gas and pollution reduction benefits.

PROJECT DESCRIPTION

The project is to design, develop and demonstrate two types of bioreactors capable of increasing landfill gas production, accelerating the biodegradation process and decreasing landfill generation lifecycle costs. One bioreactor will be designed to use municipal solid waste (MSW) or source-separated organic waste materials; the other will be designed to use MSW or source-separated organic waste materials along with animal waste. Performance metrics will include measurement of changes in methane production; estimation of direct reductions in CH_4 emissions and indirect reductions in other criteria air emissions associated with displaced conventional generation; and assessment of changes in lifecycle costs of generation from landfill gas.



BENEFITS TO CALIFORNIA

There are over 3000 landfills in which 51 landfills have landfill gas to energy (LFGTE) systems in California. These LFGTE systems, however, have been designed to reduce landfill emissions and odors and to meet regulatory requirements for gas collection. To date, little attention has been given to managing the landfill system to increase gas production or to reduce the estimated life of the landfill by increasing the biological activity during the decomposition of the waste. The project will result in a successful operation of two bioreactor pilot projects. It is anticipated that the cumulative incremental gas production from both of these pilot reactors will be in the range of 1 to 5 MW. In addition to demonstrating the feasibility of developing these bioreactors, two reports will be developed. One report will

summarize the regulatory issues that were addressed and satisfied in the course of developing this project. The second report will summarize the engineering work done to design and install the reactor and present pertinent installation, operation, and maintenance costs.

FUNDING AMOUNT

Commission	$2,315,999
Match	$800,000
Total	$3,115,999

PROJECT STATUS

The project is scheduled from 11/4/2002 to 2/25/2006. The Commonwealth program kick off meeting was held on May 29, 2002 at the California Energy Commission. The project is currently on schedule and within the budget.

FOR MORE INFORMATION

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